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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,938	07/18/2003	David D. Neranjan	60246-228	6485

26096 7590 11/29/2004
CARLSON, GASKEY & OLDS, P.C.
400 WEST MAPLE ROAD
SUITE 350
BIRMINGHAM, MI 48009

EXAMINER

NORMAN, MARC E

ART UNIT PAPER NUMBER

3744

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED

DEC 08 2004

TECHNOLOGY CENTER R3700

Office Action Summary

Application No.

10/623,938

Applicant(s)

NERANJAN, DAVID D.

Examiner

Marc E. Norman

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20 and 23 is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,12-16,21 and 22 is/are rejected.
- 7) ☒ Claim(s) 3,4,9-11 and 17-19 is/are objected to.
- 8) ☒ Claim(s) 20 and 23 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

In the previous Office Action, claims 1-23 were indicated as being allowable. However, upon further review of the prior art, new rejections are set forth below. Since these new rejections were not necessitated by amendment, prosecution is reopened and the present Office Action is made non-final. The Examiner apologizes that the references applied below were not found and applied earlier.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless —

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 21, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Tsujii et al.

As per claim 1, Tsujii et al. discloses an air temperature control arrangement comprising an air temperature control unit/cover 5, optical receiver 6 housed in the cover, and light guide 17 reflecting communicating with and reflecting light signals to the receiver.

As per claim 2, Tsujii et al. discloses light guide 17 comprising a reflecting surface directing light to receiver 6.

As per claim 21, the system of Tsujii et al. controls air temperature (via room side unit 1).

As per claim 22, the system is remotely controlled from transmitter 7.

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Claims 12-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Pasquarette et al.

As per claim 12, Pasquarette et al. discloses an air temperature control assembly (thermostat, see Abstract, lines 2) comprising an air temperature control unit with cover assembly 10, and switch 18 in communication with the control unit (Figure 6), the switch comprising an arm as part of the cover assembly (column 4, lines 11-14), the arm flexible between actuated and unactuated positions (Figures 5 and 6), and configured to actuated manually.

As per claim 13, Pasquarette et al. discloses arm 18 being recessed from top surface of cover 10.

As per claim 14, Pasquarette et al. discloses post 34.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsujii et al. in view of Pasquarette et al.

As per claims 5-7, Tsujii et al. does not teach the control switch details as recited in these claims. However, such switch arrangements are taught by Pasquarette et al. as discussed above regarding claims 12-14. It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply such switches to the controller of Tsujii et al. for the purpose of manually controlling room-side unit 12.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsujii et al.

As per claim 8, official notice is taken that it is common and well-known for air temperature control systems to have multiple set points (for example temperature setback set points for nighttime). It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply such controls to the system of Tsujii et al. for the purpose of improving the comfort and energy efficiency of the system.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasquarette et al.

As per claim 15, Pasquarette et al. does not specifically state that the switch is used to actuate an air temperature set point. However, temperature set points are common and well known functions of temperature control systems, and would have been an obvious application of the switch of Pasquarette et al. for the purpose of directly controlling the temperature of a control space.

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As per claim 16, Pasquarette et al. does not teach an optical receiver in communication with the control unit. However, optical receivers are common and well-known features of temperature controllers (as part of remote control systems) that would have been obvious to apply to the thermostat Pasquarette et al. for the purpose of allowing the thermostat to be remotely controlled.

Allowable Subject Matter

Claims 3, 4, 9-11, and 17-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 20 and 23 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc E. Norman whose telephone number is 571-272-4812. The examiner can normally be reached on Mon.-Fri., 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Denise Esquivel can be reached on 571-272-4808. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MN

A handwritten signature in black ink, appearing to read 'Marc Norman', with a stylized, flowing script.

**MARC NORMAN
PRIMARY EXAMINER**

Notice of References Cited	Application/Control No. 10/623,938	Applicant(s)/Patent Under Reexamination NERANJAN, DAVID D.	
	Examiner Marc E. Norman	Art Unit 3744	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-5,552,956	09-1996	Pasquarette et al.	361/680
	B	US-			
	C	US-			
	D	US-			
	E	US-			
	F	US-			
	G	US-			
	H	US-			
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N	JP 358140543 A	08-1983	Japan	Tsujii et al.	236/51
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

PAT-NO: JP358140543A

DOCUMENT-IDENTIFIER: JP 58140543 A

TITLE: TRANSMITTER FOR REMOTE CONTROL OF AIR
CONDITIONER

PUBN-DATE: August 20, 1983

INVENTOR-INFORMATION:

NAME

TSUJII, MASATOSHI
YAMADA, YOSHIKAZU

ASSIGNEE-INFORMATION:

NAME

MATSUSHITA ELECTRIC IND CO LTD

COUNTRY

N/A

APPL-NO: JP57022322

APPL-DATE: February 15, 1982

INT-CL (IPC): F24F011/02

US-CL-CURRENT: 236/51

ABSTRACT:

PURPOSE: To securely operate an air conditioner, by a method wherein a transmitter is provided with a deflecting plate for deflecting the direction of a signal beams emitted from a transmitting part, and the direction of a signal beam is adjusted to the direction toward a receiving part of the air conditioner.

CONSTITUTION: A transmitting part 11 is provided at an upper part of the transmitter 7 which is comprised of a light-emitting element 12 emitting infrared rays, a reflector 13 for reflecting the infrared rays emitted from the element 12 and a port 14 for transmitting the infrared rays

therethrough. When various switches of the transmitter 7 are operated, the light-emitting element 12 radiates the infrared rays, the light reflected by mirror plate 17 is received by a light-receiving element 6, and a room-side unit 1 starts operating. When the level of an optical signal reaching the receiving part 5 is low due to an installing condition, the angle of incidence of the infrared rays from the element 12 and the resultant angle of reflection are adjusted by regulating the angle of the mirror plate 17 so that the optical signal reaches the receiving part 5 at a high level, thereby securing the operation.

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⑩ 日本国特許庁 (JP)

⑪ 特許出願公開

⑫ 公開特許公報 (A)

昭58—140543

⑬ Int. Cl.³
F 24 F 11/02

識別記号

庁内整理番号
7914—3L

⑭ 公開 昭和58年(1983)8月20日

発明の数 1
審査請求 未請求

(全 3 頁)

⑮ 空気調和機の送信装置

⑯ 特 願 昭57—22322

⑰ 出 願 昭57(1982)2月15日

⑱ 発 明 者 辻井昌利
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⑲ 発 明 者 山田嘉一

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㉑ 代 理 人 弁理士 中尾敏男 外1名

明 細 書

1、発明の名称

空気調和機の送信装置

2、特許請求の範囲

受信部を具備した空気調和機と、この空気調和機の運転内容を光信号などで送信する送信部を具備した送信装置を設け、さらにこの送信装置に、前記送信部から発信される信号の方向を偏光させる偏向板を設けた空気調和機の送信装置。

3、発明の詳細な説明

本発明は、光信号などで運転内容を伝達する空気調和機の送信装置に関するもので、送信信号が確実に空気調和機の受信部へ伝達されるようにすることを目的の一つとするものである。

従来より、空気調和機の運転を制御する手段として超音波あるいは光などの信号を用いて送信する手段が知られている。しかし、空気調和機の場合は、テレビなどと異なり、頻繁に操作する必要がないため、送信装置を壁面などに取付けることが望ましい。ところが、空気調和機の据付けは、

室内の装飾の関係上、位置が限られることが多いもので、この性質から送信装置を最も信号が到達しやすい場所を選定すると、室内の装飾感が失われることがあり、しかたなく信号が到達しにくい場所が選定されることもある。かかる状態になると、空気調和機の運転が正常に制御されず、また送信装置の電源電圧が低下するとより信号が伝達されない場合も生じる欠点を有していた。

本発明は、上記従来の欠点を解消するものである。

以下、本発明をその一実施例を示す図面を参考に説明する。

図において、1は周知の構造からなるセパレート形空気調和機の室内ユニットで、前面に吸込口2および吹出口3を具備し、室内の壁面4に取付けられている。5は前記室内ユニット1の前面に設けられた受信部で、受信専用の受光素子6が設けられている。7は送信装置で、前記室内ユニット1と同様に室内の壁面4に取付けられ、運転制御および送風制御などを行うための各種スイッチ

8, 9, 10が設けられている。11は前記送信装置7の上部に設けられた送信部で、赤外線を照射する発光素子12およびこの発光素子12の赤外線を反射させる反射装置13と、その赤外線を透過させるための開口14より構成されている。この反射装置13は、送信装置7に設けられた固定部15と、この固定部15に第3図の矢印A, Bで示す如く回転可能に支持された鏡枠16と、鏡板17より構成されている。ここで、前記固定部15と鏡枠17との結合構造は、例えば自動車のサイドミラーなどに採用されている構造でよい。ため、説明を省略する。

上記構成において、送信装置7の各種スイッチ8, 9, 10を操作することにより、都度発光素子12が赤外線を照射し、鏡板17によって反射された光を受光素子6で受けると室内ユニット1が運転を開始する。

ところが、据付け条件の関係上、受信部6に到達する光信号レベルが小さい場合などは、正常な操作が期待できなくなる。この場合は、反射装置

13の鏡板17の角度を変えて発光素子12から照射される入光角度 θ と反射角度 θ を調節することにより、光信号を高いレベルで受信部6へ到達させることができる。

したがって、室内の装飾を損うことなく最適な送受信が行え、室内ユニット1が確実に操作できる。

なお、本実施例においては、信号を赤外線光の場合について説明したが、他の要素としても同様に実施できる。

上記実施例より明らかなように、本発明における空気調和機の送信装置は、受信部を具備した空気調和機と、この空気調和機の運転内容を光信号などで送信する送信部を具備した送信装置を設け、さらにこの送信装置に、前記送信部から発信される信号の方向を偏光させる偏向板を設けたもので、偏向板により、信号要素の方向を空気調和機の受信部へ向うように調整できるため、空気調和機の確実な運転操作が行え、しかも室内装飾観の関係で、その位置が信号の到達しにくい場所であって

も解決できるなど優れた効果を奏するものである。

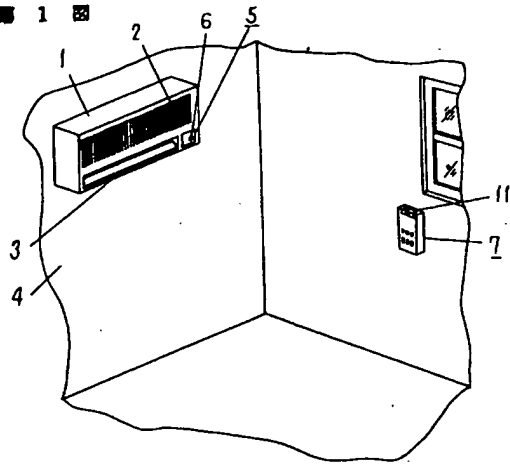
4、図面の簡単な説明

第1図は本発明の一実施例における送信装置を具備した空気調和機の据付け状態を示す室内斜視図、第2図は同送信装置の要部斜視図、第3図は同送信装置における反射装置の斜視図である。

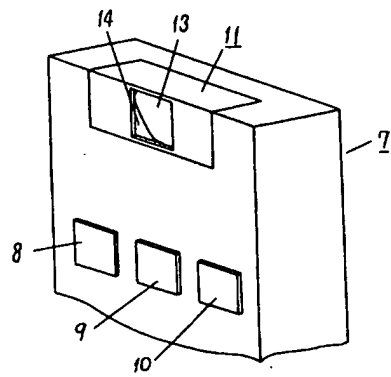
1 ……室内ユニット、6 ……受信部、7 ……送信装置、11 ……送信部、13 ……反射装置。

代理人の氏名 弁理士 中 尾 敏 男 ほか1名

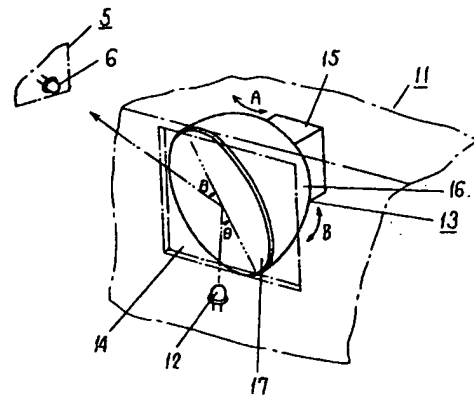
第 1 図



第 2 図



第 3 図



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